NETERIUM

REVOLUTIONISING COMPLIANCE:

THE SHIFT FROM MONOLITHIC SYSTEMS TO COMPOSABLE ECOSYSTEMS

DECEMBER 2024

neterium.io

A **composable enterprise** represents a **modular approach to technology**, where businesses leverage interchangeable components to build flexible, adaptable systems. By using a combination of APIs, micro-services, and agile practices, this model facilitates rapid adaptation to change, enabling scalable and customisable solutions that align closely with business goals.

This White Paper details the key elements of composable solutions and architecture, exploring how the Neterium API is shaping the future of financial crime compliance solutions.

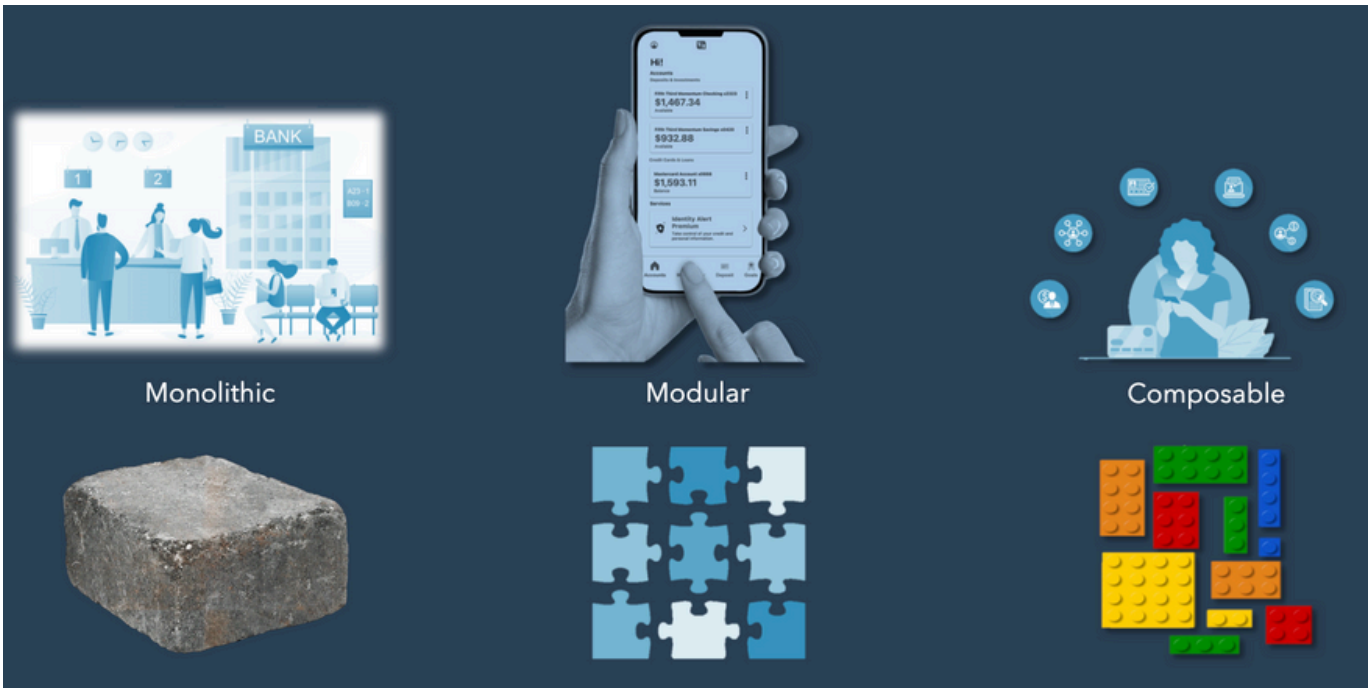
The need for Composable Solutions

The digital transformation sweeping through financial institutions is reshaping how banks operate. Traditional banking systems, with their rigid structures and slow pace of change, are in the process of being replaced by agile, technology-driven operating models. Central to this transformation is the emergence of composable solutions, i.e. modular and interoperable components that can be assembled to adapt to changing needs. In Financial Crime Compliance (FCC), this shift allows banks to quickly respond to emerging threats and regulatory updates without the delays and costs associated with traditional systems. The transition from monolithic architectures to composable systems is a strategic shift, enabling institutions to future-proof their operations.

The Evolution of compliance technology

Historically, banks relied on monolithic systems, i.e. custom-built software integrated with proprietary hardware. While these systems were effective for a time, they lacked flexibility and scalability. Changes or upgrades were costly and time-consuming, leaving banks unable to keep pace with rapidly evolving compliance requirements. In FCC, this rigidity often resulted in delayed responses to new types of financial crimes or regulatory shifts. Later, the move towards modular architectures introduced some flexibility by offering pre-built vendor solutions.

However, these modules were often proprietary, limiting interoperability between systems and creating strong dependencies on specific vendors. While an improvement over monolithic systems, modular architectures still fell short of providing the agility needed to address FCC's fast-changing landscape. Composable architectures represent the next stage in this evolution. Built on cloud-native principles, it uses open APIs to create interoperable components that can be easily integrated and reconfigured. Unlike modular systems, composable solutions resemble LEGO blocks, i.e. flexible, versatile, and designed to work together seamlessly. This operating model empowers banks to rapidly deploy new components, integrate advanced analytics, and respond dynamically to compliance challenges.



Monolithic	Modular	Composable
Mainframe Custom-made software some vendor software Slow and non-standard interfacing (files, MQ, RDBMS) Internal Formats	Distributed Systems Vendor packages "modular" application suite (installed and maintained by vendor PS teams) Proprietary interfaces (SWIFT ADK, IBM MQ, RDMBS, files) Proprietary formats	Cloud-native Micro-services Continuous Delivery Vendor and inhouse components Effortless integration Standard API (REST) Standard Formats (ISO20022)

Transforming FCC with composable architecture

The adoption of composable solutions is redefining FCC operations. The flexibility of this architecture allows banks to integrate new compliance tools as regulatory requirements evolve. For instance, when new sanctions or regulations are introduced, banks can swiftly adjust their workflows by adding or reconfiguring specific components without overhauling the entire system. This agility ensures compliance while minimizing disruption. Another critical advantage of composable architecture is its ability to avoid vendor lock-in. By using standard and open APIs, banks can select best-of-breed components from multiple vendors and combine or replace them as needed. This fosters a competitive ecosystem where innovation thrives, giving institutions access to innovative technologies that enhance FCC effectiveness. The flexible nature of composable solutions also enables the integration of advanced technologies like artificial intelligence. Machine learning models can be added to detect anomalies, process unstructured data, and predict compliance risks. These capabilities significantly improve the accuracy and efficiency of FCC programs, reducing false positives and enhancing precision.

Operational and financial benefits of composable architecture

Composable architectures reduce costs by streamlining operations: integration with operational systems is simpler and faster, as components are designed to work together seamlessly. The orchestration layer, a key feature of composable systems, is the only part that needs to be developed (or acquired) by the institution to manage interactions between components and enable dynamic workflows that adapt to new regulatory or business needs.

Over the solution’s lifecycle, maintenance expenses are significantly lower because updates and replacements can be made at the component level without disrupting the entire system.

The Future of compliance: automation and AI

As composable solutions mature, the potential for automation grows. Self-describing APIs enable automated integration, allowing banks to deploy new components faster and with less manual effort. Artificial intelligence further enhances this process by generating integration scripts and optimizing workflows. AI-driven analytics also show the way for predictive compliance, helping banks anticipate and mitigate risks before they materialise. The shift from monolithic systems to composable solutions marks a profound transformation in FCC. By embracing this architecture, financial institutions gain the agility, efficiency, and resilience needed to navigate an increasingly complex regulatory environment.

KEY TAKEAWAYS

- **Agility and adaptability:** Composable architectures enable banks to quickly adjust to evolving regulatory and geopolitical challenges.
- **Vendor independence:** Open APIs facilitate modular integration, reducing vendor dependency and encouraging innovation.
- **Cost efficiency:** Modular design simplifies updates, lowering implementation and maintenance expenses.
- **Future readiness:** Composable solutions integrate advanced tools like AI, ensuring resilience in compliance.

> “Unlike modular systems, composable solutions resemble LEGO blocks, i.e. flexible, versatile, and designed to work together seamlessly. This operating model empowers banks to rapidly deploy new components, integrate advanced analytics, and respond dynamically to compliance challenges. (...) The shift from monolithic systems to composable solutions marks a profound transformation in FCC. By embracing this architecture, financial institutions gain the agility, efficiency, and resilience needed to navigate an increasingly complex regulatory environment.”

CONTACT NETERIUM

https://neterium.io/

/company/neterium/

info@neterium.io

https://twitter.com/neterium